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CHARLESTON,

SOUTH CAROLINA.

The Leading Port for Western,
Central and South American,
West Indian, and
European Trade.

POSITION, FACILITIES AND
UNEQUALLED ADVANTAGES.

PUBLISHED BY ORDER OF
THE CHAMBER OF COMMERCE,
1880.

Charleston, S.C. Chamber of Commerce

CHARLESTON,

SOUTH CAROLINA.

The Advantages of the City of Charleston

AS A

PORT OF IMPORT AND EXPORT

FOR

THE TRADE AND COMMERCE

OF THE

Northwestern States of the United States,

AND OF

Central and South America,

The West Indies, and Europe.

THE REPORT OF A SPECIAL COMMITTEE OF THE CHAMBER OF COMMERCE, PRESENTED AND ADOPTED MARCH 29, 1880.

CHARLESTON, S. C.
THE NEWS AND COURIER BOOK PRESSES.
1880.

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THE REPORT.

To the Chamber of Commerce of Charleston:

The Special Committee appointed by the Chamber of Commerce for the purpose of exhibiting the varied advantages of the City of Charleston, as a port of import and export for the trade and commerce of the Northwestern Cities and States of the United States, and of Central and South America, the West Indies and Europe, beg leave to submit the following preliminary report, in the hope that it will have the effect of directing public attention here and elsewhere to this important subject.

Fifty years have passed since South Carolina first projected the building of a line of railroad to connect this City with the great food-producing region of the Northwest. Upon the uncompleted Blue Ridge Railroad, and upon distant lines in Tennessee expected to be connected with the South Carolina system of railroads, this State and City have expended, at different times, several million of dollars. The breaking out of the war alone prevented the completion of the Blue Ridge line, and the State, in 1865, found herself without the Western connections to which the people had looked forward for thirty years, while the railroads in the State were worn out or shattered. The first task was to reconstruct and equip the roads already in operation, but at no time, early or late, has there been an abandonment of the hope and purpose to carry out the plans which our far-sighted citizens proposed in the earliest days of railroad building in the United States.

From the beginning of American railroad history the objective point was the great grain-growing region of the

West. Before that time produce and manufactures were hauled in wagons or followed the water-courses. The great tide of immigration had not set in, and States now teeming with population and overflowing with agricultural wealth were on the outer limit of civilization. The States of Ohio, Indiana, Illinois, Wisconsin, Iowa, Minnesota, Missouri, Kansas and Nebraska had a population of a million and a half, and were barely self-supporting. To-day a net work of eighty-one thousand miles of railroad covers the country, and the States we have named have a population of thirteen million souls, who, in commerce and in agriculture, are conspicuously active, clear-sighted and enterprising.

The first Atlantic City which succeeded in reaching the mine of commercial wealth in the West was New York. This was effected by the Erie Canal, which was completed in 1825. The products of the West then began to find an outlet at New York. Twenty-five years later no iron road had yet crossed the mountain barriers which separate the seaboard from the great heart of the Continent, and the movement of the Western products was confined to transportation upon the great rivers that drain into the Gulf of Mexico. Still with each succeeding year the flood of agricultural wealth rose higher, being swelled by the unceasing influx of population and the improvements in agricultural appliances which enabled one man to do the work of many. The first railroad that penetrated to the West was the New York and Erie. Next came the New York Central. The result of their completion and of the operations of the Erie Canal is startling and encouraging.

In the year 1859 the total tonnage moved East and West by the Erie and Central Roads and the Erie Canal was 5,500,000 tons. In 1869 it had increased to 12,500,000 tons, and in 1878 it reached 19,500,000 tons. The tonnage of vessels entered at the Port of New York increased in the same proportion. In 1859 it was 1,890,000; in 1869, 3,100,000, and in 1879, 6,661,825 tons. The imports and exports of New York City for the same periods were as follows: In 1860, $354,000,000; in 1870, $504,000,000, and n 1879, $653,000,000.

Philadelphia was the next Atlantic City to tap the Western reservoir, and we accordingly find that the tonnage of vessels entered at that port gradually increased from 156,000 tons in 1858, to 278,000 tons in 1868, and 1,315,649 tons in 1879, while the import and export trade kept pace with the tonnage. In 1860 it amounted to $20,000,000; in 1870 to $31,500,000, and in 1879 to $71,000,000.

Baltimore was the next in the race, and, having overcome all difficulties and pushed her splendidly equipped roads across the mountains, rapidly gained on her next-door rival. We find that the tonnage of Baltimore, which had fallen off during the war from 225,000 tons in 1861, to 88,000 tons in 1865, rose again quickly, and was 216,000 tons in 1868, 558,000 tons in 1874, and 1,374,554 tons in 1879. The imports and exports advanced from $8,500,000 in 1860 to $34,000,000 in 1870, $57,000,000 in 1875, and $71,500,000 in 1879.

Boston has been the last of our Atlantic ports to reap the benefit of Western trade. Shut out by an almost impassable barrier, Boston began, more than thirty years ago, to cut her way through mountains that could neither be surmounted nor passed around. Only within the last three years has she completed her masterpiece of engineering skill—the Hoosac Tunnel—but already she has felt the effect of her perseverance. The tonnage which had remained almost stationary for over twenty years, being 708,000 tons in 1855, and 752,000 in 1877, suddenly began to improve, reaching 938,000 in 1878, and 1,137,000 in 1879. The import trade of Boston so far shows no improvement, remaining about $40,000,000 per annum. The export trade already feels the effect of the new connection. From $13,500,000 in 1860 it declined to $12,000,000 in 1870, but rose to $29,000,000 in 1875, and $48,000,000 in 1879.

The figures we have given demonstrate the vast profit sure to be enjoyed by ports which have direct and independent through lines to the West; and it is not indispensable that the new routes seeking Western business should be powerful enough to deprive established lines of their traffic. There is room for all. The five great trunk roads in the

United States with the Erie Canal and the Canada Southern are inadequate to the demands of the Western trade, and unable to carry Eastward as rapidly and regularly as is desirable the surplus produce of the West. The difficulty will increase if the accommodations be not enlarged. The land now under cultivation bears but a small proportion to the area still in a state of nature, and, with steady and increasing immigration from Europe and the Eastern States of the Union, it is not extravagant to assume that the products of the West will more than double in amount during the next twenty years. What has been done is shown in the following figures: The production of corn and wheat in the States West of the Mississippi in 1849 was 5,250,000 bushels; in 1859, 25,000,000 bushels; in 1869, 89,000,000, and in 1877, 152,000,000 bushels. Twenty-five years ago no railroad had been completed from the seaboard to that river. In 1875 there were thirteen railroad bridges crossing the river, North of St. Louis, which had been built at a cost of over $20,000,000; and in that year 2,344,354 tons of freight crossed those bridges going East. In 1878, 3,554,838 tons crossed in the same direction, showing an increase in three years of over 1,200,000 tons a year.

Let us see what this annual increase would do for one City on the seaboard, should it get the whole of it. It would give it ten trains of forty cars, each car carrying ten tons of freight, every day, for three hundred days, or 4,000 tons each day, and would require four vessels of one thousand tons every day to remove it.

Is not this a prize worth striving for? Shall Charleston remain inactive while every other City and port on the Atlantic and Gulf is making the most strenuous efforts to obtain it?

There is now a favorable opportunity for the construction of additional lines of communication, and there are special reasons why the great West now looks more keenly than ever to the ports of the South Atlantic coast.

From Alabama to Virginia, a distance of more than 400 miles, only one line of railroad connects the railroad systems

of the Northwest and the Southeast. It is a necessity to the different combinations now forming for the development of Western and Southern business that there should be at least one other line of railroad connecting the West with the South Atlantic. Unless this be had, each and every Western line, whatever its wealth and its necessities, can be choked off from communication with the South Atlantic by any company which has control of the single line from Chattanooga to Atlanta. It is a geographical necessity that the new and independent line shall pass East of Chattanooga; and there are substantial and obvious reasons why the terminal point should be Charleston in preference to any other South Atlantic port. Of the general advantages of Charleston we shall speak hereafter. The special importance of this City, now and in the future, is in connection with the markets of Central and South America and the West Indies, to which the West must look for a market when Europe shall cease or be unable to consume her surplus productions.

In the West Indies and the States of Central and South America, there is a population of forty-two millions, living in lands unsuitable to the production of breadstuffs and meat and the manufacture of clothing, but producing in abundance coffee, sugar, fruit, tobacco and other articles of almost universal consumption in this country. They have what we need, and we produce what they require. In the interchange of the products of such countries, for the products of the Northwestern States, is the surest road to permanent and progressive commercial prosperity.

The countries we have described now import yearly from Europe and America provisions and other articles to the value of $356,000,000. Of this amount the United States supply only $61,000,000. The exports of these countries amount to $438,000,000, out of which the United States take and consume $150,000,000. The United States, therefore, pay to these countries $89,000,000 in cash annually as the difference between what we buy and what we sell; while Europe sells these countries every year products valued at

$295,000,000, and takes from them in return their productions to the value of $288,000,000. What Europe now does the United States can, and, we trust, will ultimately do.

The bulk of the shipments from the Northwest to Central and South America and the West Indies now go by way of Boston, New York or Baltimore; and our imports from those countries take the same circuitous route. It need not be explained that time and cost of transportation are essential considerations in opening new channels of trade. In this aspect Charleston has surprising advantages as a substitute for Northern ports.

The distance from Havana to Cincinnati by way of Charleston is 300 miles less than by way of Baltimore, 500 miles less than by way of New York, and 900 miles less than by way of Boston. Taking St. Louis as the Western terminus, the gain in distance is greater by about 150 miles. Charleston has the same advantage as regards the whole of the West Indies and Central and South America. This, it should be remembered, is on the basis of the lines of railroad already completed. The building of the short links now wanting East and West of the Blue Ridge would increase the saving in distance more than 100 miles, and the new lines would pass through the heart of one of the richest countries in minerals in the United States—a region whose resources are to-day imperfectly known and entirely undeveloped. It should be noted also that the completion of the Carolina system of the Western railroads, whether by the old Blue Ridge route to Walhalla and Knoxville or by the Asheville route to Wolf Creek and Morristown, will be an extension of roads running through a settled country already enjoying a large and profitable business and able to contribute to the support of the sections of road to be built, or towards sustaining the work until completed. The lines which run from Charleston to the Northwest do not need Western connections merely to make them profitable, for their local and through business is already extensive. They look forward to Western trade as the great East and West lines of the North have done, as a means of doubling and quadrupling their business.

We have shown that it will be of immense advantage to Charleston to secure direct connection with the West, and we have shown likewise that it is to the interest of the Western States to prepare at once to obtain an additional port of entry and export as a means of reaching the markets which have been hitherto practically monopolized by Europe. Charleston, we are satisfied, should be this new port, inasmuch as it has special and peculiar advantages over other Cities.

The Gulf ports, for example, cannot compete successfully with Charleston, although to some port on the Gulf the West has been accustomed to look for an outlet for its produce and manufactures, receiving by the same channel West Indian and South American produce. To Charleston the voyage is less perilous, and insurance and other charges are much less at Charleston than on the Gulf. The West moreover has a large and growing trade with Europe, and for this trade, as compared with the Gulf ports, Charleston has no equal. By sailing vessel the usual run from Charleston to British ports is ten days less than from New Orleans. This difference alone is sufficient to make it to the interest of the West to trade through Charleston instead of sending produce a greater distance to the Gulf to make a longer voyage by sea. Charleston has the shorter line both ways.

For European trade Charleston is upon as good a footing as the ports to the Northward; and as the use of steamships becomes more general any minor advantages the Northern ports now possess will be done away with. Inward freights are low, inasmuch as the bulk of the present freight movement is outward. Emigrants can be brought into Charleston in safety and comfort at all seasons, and have a pleasanter as well as less dangerous voyage than by the Northern routes.

For European trade of any kind, in comparison with the Gulf ports, vessels trading with Charleston escape the dangers and delays of the Florida reefs; and for the West Indian trade, as compared with Northern ports, vessels trading with Charleston are free from the hazards or discomforts of storm-bound Hatteras.

Charleston, moreover, is on the sea. The deep water be-

yond the bar is only six miles from the City. Within the land-locked harbor, with deep water to the wharves, is ample room for the whole shipping of New York. The Ashley and Cooper Rivers, broad and deep, extend for miles along the peninsula on which Charleston is built. The wharves at the Eastern side of the City have, at present, accommodation for fully two hundred vessels of average size. There is storage room for 600,000 bales of cotton, as well as rice, naval stores, &c. Five cotton presses are in operation with a capacity of 5,000 to 7,000 bales a day. Last year they compressed 410,000 bales of cotton. Charleston has three rice mills, with a capacity of 230 tierces of 600 pounds each per day. Last year they pounded 51,000 tierces. Excellent sites, however, are available for the erection of elevators and other structures required for the economical handling of bulky freight. These can be found, with deep water, on both sides of the City. The Legislature has authorized the construction of a canal to connect the Cooper and Ashley Rivers above the City, and along this canal, whenever it shall become necessary, accommodation can be given to through freights equal to what Baltimore has and New York needs.

The population of the City is over 56,000. A more equable climate is not to be found outside of the most favored regions of Italy. The health of the City is remarkably good, and there are none of the malarious fevers with which riparian ports are apt to be afflicted. The markets are well supplied at every season of the year. The Public Schools are old established and well managed. The credit of the City is high, and the administration of the City government is in the hands of a Mayor and City Council who enjoy the entire confidence of the community, and conduct the municipal government as they manage their own affairs.

The banking facilities are sufficient for the present business of the City, and capable of indefinite expansion. The supply of labor is abundant at reasonable rates. The manufacturing business of the City is large and increasing, and in the one article of fertilizers the production here this season will be over 55,000 tons.

Charleston, it must always be remembered, is already an important City, transacting a large business. The shipments of phosphate rock, mined in South Carolina, amounted last year to 199,365 tons; and the receipts at this port of the principal staples for the year ending September, 1879, were as follows: Cotton, 502,995 bales; rice, 40,000 tierces; naval stores, 304,000 barrels; lumber, 13,000,000 feet. The value of the foreign exports last year was $19,607,897.

The single drawback in Charleston is the comparative shallowness of the water on the bar. There are, at present, about eighteen feet of water on the bar at high tide, but the National Jetties in process of construction by the United States government, under the direction of General Q. A. Gillmore, will increase the depth of water to at least twenty-six feet, making Charleston incomparably the finest port and harbor on the South Atlantic.

To make Charleston fully available for Western business, it is only necessary to complete the lines of railway to Knoxville. On the Blue Ridge Road there are 156 miles to be completed, counting the Knoxville and Maryville line as finished. A large part of the grading and tunnelling has been done. To complete the Spartanburg route, it is only necessary to fill the gap of 63 miles between Wolf Creek and Hendersonville, the present terminus of the Spartanburg and Asheville Railroad. About half of the grading has been done. The projected Atlantic and French Broad Railroad, from Belton to Asheville, is 96 miles long; the grades are easy, and only three bridges, the largest of them 100 feet in length, will be needed.

The principal distances from Charleston by the different routes are as follows:

PRESENT ROUTE.

	Miles.
Charleston to Augusta	137
Augusta to Atlanta	171
Atlanta to Chattanooga	138
Chattanooga to Cincinnati	336
Total distance	782

BLUE RIDGE ROUTE.

	Miles.
Charleston to Columbia	130
Columbia to Walhalla	159
Walhalla to Maryville (unfinished)	156
Maryville to Knoxville	16
Knoxville to Cincinnati, via New River and Careyville	281
Total distance	742

FRENCH BROAD ROUTE.

	Miles.
Atlantic and French Broad Railroad, from Belton to Asheville (projected)	96
Asheville to Wolf Creek	40
Wolf Creek to Knoxville	80
Total distance	216

ASHEVILLE ROUTE.

	Miles.
Charleston to Columbia	130
Columbia to Spartanburg	93
Spartanburg to Hendersonville	49
Hendersonville to Wolf Creek (unfinished)	63
Wolf Creek to Morristown	39
Morristown to Knoxville	41
Knoxville to Cincinnati	281
Total distance	696

The construction of a line from Greenwood, or Ninety-Six, to Aiken, or some adjacent point on the South Carolina Railroad, will shorten considerably the distance from Charleston to Walhalla, and Knoxville. In like manner, the building of a line from Morristown to London, Kentucky, will shorten considerably the Asheville route to the West.

The Committee are well aware that Charleston cannot expect to achieve, without difficulty, the commanding posi-

tion which should be hers. Other and rival Cities are vigorously at work. In most of the recent combinations which have been made, Charleston is not considered. It will be a work of time and labor to convince the Western people that their interests lie in this direction; and it will take some time also to secure that co-operation within the State which is indispensable to our success. The Committee feel, therefore, that a report which will be simply read and then laid aside will be of comparatively little value. In their judgment, what is needed is such an exhibit of Charleston's position and advantages, as can be kept constantly in sight, impressing itself steadily and persistently upon the attention of the merchant and the railroad operator. With this view, they have decided to prepare an elaborate map showing the railroad lines, built or projected, from Charleston to every part of the United States, and the position of this port in relation to the trade of the West Indies and South America. With this will be given a plan of Charleston and its surroundings, showing its water front and wharf accommodations, its proximity to the ocean, the capacity of the harbor and the depth of water, the adjacent towns and islands, the lines of the Ashley and Cooper Rivers and of the Canal which is to connect them, the location of the truck and vegetable farms, and the line of the National Jetties now under construction. Upon the face of the map will be given such statistics as will demonstrate the importance of the trade with Sonth America and the West Indies; and set forth clearly the various advantages and opportunities of Charleston as a port of export and import. This map will be distributed carefully and systematically throughout the United States, and in the West Indies and South America; and, in the opinion of the Committee, will have a permanent and growing value, giving a better idea of Charleston and its surroundings than can be furnished by any bare description. The attention bestowed upon it will account, the Committee trust, for the lack of detail which necessarily characterizes the present report, which is intended, more than anything else, as assurance to the Chamber of Commerce and the

public, that the work entrusted to us is in progress and will be speedily completed.

A. SIMONDS, *Chairman.*
W. L. TRENHOLM.
F. W. DAWSON.
H. T. WILLIAMS.
J. S. MURDOCH.
C. F. HANCKEL.

The report was unanimously adopted, and the Committee were instructed to provide for its publication in pamphlet form for general distribution.

S. Y. TUPPER,
President.

P. J. BARBOT,
Secretary.

APPENDIX.

The subjoined letter of the Hon. D. R. Duncan, President of the Spartanburg and Asheville Railroad, dated February 6, 1880, shows the grades on the line, the actual operations of the road, and the work remaining to be done.

[Letter of President Duncan in The News and Courier.]

The following in THE NEWS AND COURIER of the 4th instant is what appears to be an editorial:

[From The Pickens Sentinel.]

"The newspapers are discussing the probability of reviving the old Blue Ridge route and the completion of the Spartanburg and Asheville Road. As to the latter, we believe it will be completed, as there are only a few miles of grading to finish between Henderson and Asheville, and the road is already running to the former place. But with a maximum grade of 237 (the lowest estimate) feet to the mile for five miles over the mountains, for all practical purposes this road is a failure. This is acknowledged by nearly all competent engineers."

Our friend then goes on hopefully to discuss the construction of the Atlantic and French Broad Valley Railroad from Belton to Asheville. We shall certainly rejoice in the realization of the most sanguine expectations expressed in regard to this line. Every citizen should heartily endorse, and, as far as he is able, assist in efforts to construct, any and all lines having for their object the development of the resources and the natural welfare of the State; and no pet schemes, local interests or prejudices should intervene in the

consummation of any great and worthy public enterprise. We do not believe for a moment that our neighbor, the Sentinel, intentionally misstates the facts in reference to the Spartanburg and Asheville Railroad as given above; but, all the same, its statements mislead. Our friend has only accepted as true what he has obtained from some one who evidently does not know the facts. The steep grade referred to is a small fraction less than three miles, and its average grade two hundred and one feet to the mile for that distance. The ruling and maximum grade on the whole line, except this three miles, is less than that of the Augusta and Charlotte Air Line and of the lines West and Northwest of us. This grade has been operated now for nearly two years. An engine with 15 by 22 inch cylinder has been carrying with ease fifty tons net freight over this grade without help. An engine with 16 by 24 inch cylinder has carried seven hundred passengers in one train, from Spartanburg to Hendersonville, N. C., over this grade without help, making the trip over the steep grade in fifteen minutes. The schedule time for the regular daily passenger and mail train, with four loaded freight cars attached, drawn by the 15 by 22 inch cylinder engine, is sixteen minutes over this steep grade. It is also true that this grade exists only one way, and that going West. There is no corresponding descent on the other side; so that the smaller engine referred to above can carry with ease, from Hendersonville, coming South, to Spartanburg, thirty loaded cars, and consuming only one good fire of wood for thirty miles of the forty-eight miles distance between the two points named. An engine of the capacity of those which take eighteen cars from Spartanburg to Richmond will carry with all ease between thirty and thirty-five loaded cars from Hendersonville to Charleston. Is this for all "practical purposes" a "failure?" Two eminent civil engineers, now General Superintendents of leading railways in the South, have pronounced it a great success, to say nothing of the Chief Engineer of the road, who located the line, and whose superior in mountain work and location cannot be found in the Union; whose achievement

in this line has elicited the highest praise from the first men in his profession. No appeal to engineers, however, is now necessary; no theory to be discussed. The practical operations of the line are offered. The working of the line has been safe, economical and regular. During the past summer the average number of special excursions was three per week, besides the regular mail and freight trains; and there is no record of accident to life or limb since the line was opened to the traveling public.

Every water station on the road is supplied by pipes from bold springs, and not a single pump is used on the whole line. Railroad men know the item saved on this. On the steep grade the train is under complete control and management; is stopped, ascending or descending, and started again, on the steepest portion, at the discretion of the engineer. Nor has the power of the engines ever been fully tested on this grade; the object having been to work the line regularly and economically, and, above all, safely. It is not doubted that if the locomotives daily used were put to their full capacity they would largely exceed their present work. There has yet been no necessity for this. Greater speed and larger loads, doubtless, in the language of the Engineer, might be permitted with success; but the policy has been to work the track with perfect safety, to risk nothing, and "to obtain and hold the public confidence." It behooved us to build cheaply, but we have built well. Interested railroad capitalists and officials of the Northwest and West, who have not long since passed over the line, have said that they did not doubt the wisdom and expediency of retaining for all time to come this grade, rather than to expend the $300,000 necessary to get the grade of seven feet to the mile. Comparatively little remains to be done to complete the line—only nine and three-quarter miles of grading, which responsible bidders have offered to take at $4,000 per mile. Between Asheville and Wolf Creek, the terminus of the Cincinnati, Cumberland Gap and Charleston Railroads, now operated by the East Tennessee, Virginia and Georgia Railroad, the distance is forty-two miles, over

one-third of which is graded. Work will be resumed on this portion before summer, and when finished, and the grading is not heavy, connection is then made with Knoxville.

The following letter, published in the Cincinnati Commercial, and dated March 17, 1880, describes the projected route from Emery Gap to Charleston:

First. I assume that the City of Cincinnati having built a first-class road, with low grades and easy curves, deserves a connection of similar character. It has been proposed to connect the Cincinnati Southern with the Knoxville and Ohio at Careyville. A careful survey of all such routes was made by Major Ernest Ruhl, of the Cincinnati Southern Engineer Corps, and he fixed upon the connection at New River as the shortest and cheapest. This route he estimates to cost $903,500, and is twenty-eight miles in length. It uses the old grade bed of the K. & O. R. R. for eight miles, and then turns to the Southern Road. It has on its line a trestle 1,450 feet long, 500 feet of which is 150 feet high, and one tunnel 1,800 feet long and another 600 feet long. Suppose this line completed from New River to Careyville in first-class style, as the Cincinnati Southern, at that point connection is made with a road which is not first-class; has one grade of four miles length, ninety feet to the mile; part of it on a nine degree reversed curve. So bad are the grades on this road that a locomotive starting from Coal Creek with sixteen loaded cars has to leave eight of them at Heiskell's, twelve miles from Knoxville, pull the other eight into Knoxville, and then go back to Heiskell's for the eight cars left on first trip; thus running fifty-four miles to get sixteen cars a distance of thirty miles.

Again: this road has not been, and is not, controlled by parties friendly to the Cincinnati Southern, and to make a

connection by this route, which will at all times accord with the Southern road, it must be owned by them or parties in their interest. The lowest price for it, heretofore, has been $1,000,000, and $1,250,000 was asked in 1874. Hence, to make an available connection by this route, Cincinnati, or her friends, must spend at least $1,900,500. The connection from Emery Gap to Knoxville can be completed for $700,000, and not have a grade over sixty feet to the mile on the whole line.

As to the Emery Gap route—nearly the whole line in a valley—there is not a tunnel or a deep cut on it; two bridges of three hundred feet each and one of eight hundred feet, and a few short trestles. The line would connect with the famous coal lands, at Winter's Gap, on the head waters of Poplar Creek, from whence tens of thousands of tons of freight would come to go over the Southern road. The Coal Creek mines shipped, last year, 112,000 tons of coal, and from Winter's Gap can be done fully fifty per cent. more on account of easy grades and less distance. This line avoids the heavy grades of the Knoxville and Ohio, because it crosses Clinch River where the stream breaks through Copper Ridge, which ridge is the most formidable on the Knoxville and Ohio Road. It is entirely broken down and cut through by the Clinch River, where the Emery Gap Railroad would cross. This road also strikes one of the richest grain-growing and hog-producing sections of East Tennessee.

	Miles.
From Cincinnati to New River	215
From New River to Careyville	28
From Careyville to Knoxville	38
Total	281
From Cincinnati to Emery Gap	258
From Emery Gap to Knoxville	44
Total	302

Difference of distance in favor of Careyville, 21 miles.

Difference of train of sixteen cars, in favor of Emery Gap, 24 miles.

Difference of cost in favor of Emery Gap, $1,200,000.

Both routes I assume to connect at Knoxville with the Blue Ridge Railroad, which is now certain to be built, and is surveyed to be built with a maximum grade of sixty feet to the mile. Hence beyond Knoxville we shall compare with other lines via Chattanooga, placing the distance from Cincinnati to Knoxville as three hundred and two miles, while it is really more in train miles by the Knoxville and Ohio route.

	Miles.
From Cincinnati to Knoxville	302
From Knoxville to Toccoa (on A. & C. Air Line)	153
From Toccoa to Augusta	110
From Augusta to Charleston	137
From Cincinnati to Charleston, via Knoxville and Blue Ridge Road	702
From Cincinnati to Charleston, via Atlanta	774
From Cincinnati to Savannah, via Atlanta	759
From Louisville to Charleston, via Atlanta	788
From Louisville to Savannah, via Atlanta	772

It is, therefore, plainly to be seen that the best route from Cincinnati to the sea is via Knoxville and the Blue Ridge Railroad, and that the cheapest and best route from Cincinnati is via Emery Gap. The terminus of the Blue Ridge Road has been made at Toccoa, because the moves on foot will cause it to be built to that place, and thence to Augusta. The A. & C. Air Line have a road already built nearly half the distance to Augusta.

The annexed estimate of the cost of completing the Blue Ridge Railroad, as made by Colonel Gwynn, the Chief Engineer of that road, in 1860, is taken from the report made

by the President of the road, J. W. Harrison, Esq., in 1868, to Governor Orr:

In South Carolina, from Walhalla to Georgia Line	22 miles,	$761,218
In Georgia, from South Carolina Line to North Carolina Line	17 miles,	734,333
In North Carolina, from Georgia Line to Tennessee Line	80 miles,	2,173,338
In Tennessee, from North Carolina Line to Maryville	37 miles,	879,706
Total	156 miles,	$4,548,595

In South Carolina, the Stump House Mountain Tunnel, 5863 feet in length, is about three-fourths completed. Of the other two tunnels in this State, one, the Middle Tunnel, is pierced through, and the other, the Saddle Tunnel, 616 feet in length, is about half done.

In Georgia, the expensive part of the road lies between Chattanooga and Clayton, having to tunnel through the dividing ridges, and, being upon a high level, much excavation and embankment is encountered. On reaching Rabun Gap, two and three-quarter miles West of Clayton, the difficulties of the road are overcome, and the line passes into the valley of the Tennessee River, upon a level with the Gap.

In North Carolina, the road is laid in the valley of the Little Tennessee River, which is remarkably free from the high cliffs that characterize every other water-course on the Western slope of the Alleghany Mountains, and, taken as a whole, presents a very favorable route. The passage of the Smoky Mountains, which comprises a distance of twelve miles (three miles in North Carolina and nine in Tennessee), involves less expense than was expected. But one cliff extends into the river, and that is passed by a tunnel of one hundred feet, with approaches requiring cuttings of about thirty-five hundred cubic yards.

In Tennessee, after passing through the Smoky Mountains no difficulty of any note occurs. Upon the whole of the road, going from East to West, there will be no grade exceeding seventy feet to the mile, and from West to East,

the direction of the heaviest traffic, there will be no grade exceeding forty-five feet to the mile; whereas, the grades going Eastward on other roads are as follows:

Virginia and Tennessee	68 feet to the mile.
Virginia Central	72 feet to the mile.
Baltimore and Ohio	116 feet to the mile.
Pennsylvania Central	53 feet to the mile.
Sunbury and Erie	52 feet to the mile.
New York and Erie	60 feet to the mile.

The following extracts from the letter of an officer of the Atlantic and French Broad Railroad, dated April 3d, will be read with interest:

This road, when completed, will accomplish the much-desired and much-needed Western connection. The distance from Asheville to Wolf Creek is only 41 miles, and will be completed to Asheville by the first day of May, 1881. This leaves only 96 miles from Belton to Asheville, which is more favorably situated than any other route, either completed or projected, through the Blue Ridge, the actual cost of which will not be one-fifth that of completing the old Blue Ridge route.

This railroad, from Belton to Asheville, has only three bridges, and the longest of these is only 100 feet. This is remarkable, but nevertheless it is true. It passes the Blue Ridge, and touches the French Broad Valley with a maximum grade of 65 feet per mile. The mountains are rent asunder at the terminus of the ridge, dividing the waters of the Saluda and Savannah Rivers. The gorge in the mountains is a remarkable natural result, and will do more towards completing railroad connections with the West than any previous discovery.

The distance by the Atlantic and French Broad route via Asheville is 7 miles shorter, and only 96 miles of road to build, which will not cost one-fifth that of the Blue Ridge route. Either route is shorter to Charleston by the Greenwood and Augusta Road than by the Asheville and Spartanburg Road, and by building a road from Ninety-Six, on the Greenville and Columbia Railroad, to Aiken, on the South Carolina Railroad, a distance of 45 or 50 miles, it would be still shorter, and not a single bridge from the North Fork of the French Broad, in North Carolina, to the Edisto, on the South Carolina Railroad.

This is the most direct route to connect Charleston with the West, and its advantages over the Asheville and Spartanburg route are numerous—its easy grades, no streams to cross, its passing right down the French Broad River, the most fertile region in the United States. Its advantages are too numerous over the Blue Ridge route, which, I have been informed, has thirty-two bridges. If so, they will cost more than the entire completion of the Atlantic and French Broad Valley Road. The Atlantic and French Broad Road has no connection with the State of Georgia, hence her citizens will be unable to tap it as they would the Blue Ridge Road, and continue to carry all of our freights for us, as they have been doing for the last thirty years.

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